Math 211
Quiz 04

R 11 Jul 2019

Your name: _____

Exercise

(5 pt) Evaluate the following integral.[1]

$$\int (\cos t) \ln(\sin t)\, dt$$

[1] *Hint:* Let u and v be functions of t. Note that integrating the product rule

$$\frac{d}{dt}(uv) = u'v + v'u$$

gives

$$uv = \int vu'\, dt + \int uv'\, dt,$$

which we can rearrange to yield the "formula" for integration by parts (which now we know is just the product rule, integrated!). Remember that you can check your work: Differentiating your answer should give the original integrand.